

**REMARKS**

The Office Action of March 24, 2004, has been received and reviewed.

Claims 1-23 and 40-54 are currently pending in the above-referenced application. Of these, claims 40-48 have been allowed; claims 4, 8, 10, 12, 14-16, 20, 23, 53, and 54 recite allowable subject matter; claims 3, 5, 19, 21, 42, and 51 have been withdrawn from consideration; and claims 1, 2, 6, 7, 9, 11, 13, 17, 18, 22, 49, 50, and 52 stand rejected.

Reconsideration of the above-referenced application is respectfully requested.

**Rejections Under 35 U.S.C. § 102**

Claims 1, 2, 6, 7, 9, 11, 13, 17, 18, 22, 49, 50, and 52 stand rejected under 35 U.S.C. § 102.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, the elements must be arranged as required by the claim, but identity of the terminology is not required. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Walker

Claims 1, 2, 6, 7, 9, 11, 13, 17, 18, and 22 stand rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by the disclosure of U.S. Patent 6,273,800 to Walker et al. (hereinafter "Walker").

Walker describes a variety of polishing systems. The polishing system shown in FIG. 7 of Walker includes a polishing pad 440, a support pad 450, a platen 420 beneath the support pad 450, and a pair of rollers 451a, 451b for moving the platen 420 and, thus, the support pad 450. The platen includes a plurality of sections that are linked in a continuous loop. Col. 8, line 63, to col. 9, line 5. The support pad 450, which is also configured as a continuous loop, may include a plurality of linked segments 457 or a single member. *See also* col. 8, line 59, to

col. 9, line 35. The support pad 450 is configured to engage and disengage the polishing pad 440. Col. 9, lines 16-24. The support pad 450 may also be removed from the platen 420 without removing the platen from the rollers 451a, 451b. Col. 9, lines 29 & 30.

In the outstanding Office Action, it has been asserted that each of the segments 457 that form the support pad 450 “is substantially planar and functions as a subpad.” Office Action of March 24, 2004, page 2. Nevertheless, Walker lacks any express or inherent description that segments 457 may be removed from their corresponding links 427 of platen 420. *See, e.g.*, FIG. 7; col. 9, lines 16-20.

While Walker notes, at col. 9, lines 25-30 (*see also* FIG. 5), that another embodiment of the disclosed apparatus may include an “elongated, non-continuous [support] pad[] that extend[s] between corresponding supply rollers and take-up rollers . . .” and that may be removed from the platen 420, it is notable that such a support pad is not secured to the platen 420, but is held in place relative to the platen 420 by the supply and take-up rollers.

Independent claim 1, which has been amended to remove previously-added limitations (and, thus, is now broader in scope), recites an apparatus for polishing one or more layers of a semiconductor device structure which includes, among other things, a subpad support that includes a subpad retention element, as well as “a subpad located between the subpad support and [a] polishing pad . . .” Independent claim 1 also recites that the subpad is removably secured to the subpad support “by way of the subpad retention element . . .”

Walker describes support pads 450 which include segments 457 that are permanently secured to corresponding links 427 of a platen 420, as well as support pads that are secured in place over a platen 420 by supply and take-up rollers 251a and 251b, respectively. Walker does not, however, describe an apparatus that includes all of the features of independent claim 1 in as complete detail as that recited in independent claim 1. In particular, Walker does not expressly or inherently describe an apparatus which includes a subpad retention element that is part of a subpad support (*i.e.*, platen 420) and that *removably* secures a subpad (*i.e.*, support pad 450 or support pad 250) to the subpad support. Therefore, Walker does not anticipate each and every element of amended independent claim 1.

Therefore, it is respectfully submitted that, under 35 U.S.C. § 102(e), amended independent claim 1 recites subject matter which is allowable over that described in Walker.

Each of claims 2, 6, 7, 9, 11, and 13 is allowable, among other reasons, for depending either directly or indirectly from claim 1, which is allowable.

Independent claim 17, as amended and presented herein, recites a subpad support which includes a subpad retention element. The subpad retention element is configured to removably retain a subpad.

Walker, by way of contrast, lacks any express or inherent description of a subpad retention element which is configured to removably retain a subpad. Instead, the description of Walker is limited to an apparatus that includes supply and take-up rollers 251a and 251b, respectively, that hold a subpad (*i.e.*, support pad 450) in place over a subpad support (*i.e.*, platen 420), but are separate from the subpad support.

Therefore, Walker does not anticipate each and every element of amended independent claim 17, as would be required to maintain the 35 U.S.C. § 102(e) rejection of independent claim 17.

Claims 18 and 22 are both allowable, among other reasons, for depending directly from claim 17, which is allowable.

#### Vander Voort

Claims 17, 18, 49, 50, and 52 stand rejected under 35 U.S.C. § 102(e) for reciting subject matter which is assertedly described in U.S. Patent 6,224,474 to Vander Voort (hereinafter “Vander Voort”).

Vander Voort describes a grinding or polishing apparatus, as well as an element for securing a grinding or polishing cloth to a rotatable platen of a grinding or polishing apparatus. The element, which is referred to in Vander Voort as a barrier element 80 (FIGs. 1-5), includes a lower portion 40 and an upper portion 50. The lower portion 40 is formed from a material that will be magnetically attracted and, thus, securable to a magnetic element 30 that is, in turn, configured to be secured to the surface of a rotatable platen 10. The upper portion 50 is formed

from a material which prevents passage of a magnetic field emanated by the magnetic element 30 therethrough. The grinding or polishing cloth, which is also referred to in Vander Voort as a “grinding or polishing preparation element 70,” is configured to be supported by an upper surface of the upper portion 50 of the barrier element, and may be secured thereto with a pressure-sensitive adhesive 65. Thus, the barrier element 80 of the apparatus described in Vander Voort is configured to be secured to the grinding or polishing preparation element 70.

Claim 17, as amended and presented herein, recites a subpad support for use in an apparatus for polishing one or more layers of a semiconductor device structure and that includes a polishing pad that moves independently from the subpad support. The subpad support of amended independent claim 17 includes a subpad retention element for retaining a substantially planar subpad which is configured to support at least a portion of a polishing pad of the apparatus.

In contrast, the description of Vander Voort is limited to an apparatus which includes a barrier element 80 which is configured to be secured to a platen 10 by way of a magnetic element 30 and which is configured to have a grinding or polishing preparation element 70 secured thereto. As the platen 10 of Vander Voort is configured to be secured to the barrier element 80, Vander Voort lacks any express or inherent description of a “subpad support for use in an apparatus . . . that includes a polishing pad that is movable independently from the subpad support . . .”

Accordingly, it is respectfully submitted that Vander Voort does not anticipate each and every element of amended independent claim 17, as is required to maintain a rejection under 35 U.S.C. § 102(e).

Claim 18 is allowable, among other reasons, for depending from claim 1, which is allowable.

Independent claim 49, as amended and presented herein, recites a subpad assembly for use in an apparatus for polishing one or more layers of a semiconductor device structure. The subpad assembly includes a subpad, a support surface configured to receive the subpad, and a

subpad retention element associated with the support surface. The subpad is configured to support a polishing pad without being secured to the polishing pad. The subpad retention element retains the subpad in position so as to support a polishing pad of the apparatus without being secured to the polishing pad.

In the apparatus described in Vander Voort, the magnetic element 30 is configured to retain a barrier element 80. The magnetic element 30 is configured to maintain the barrier element 80 in position while a grinding or polishing preparation element 70 (which the Office apparently believes to be analogous to a polishing pad for use in polishing semiconductor devices) is secured to the barrier element 80. As the magnetic element 30 of Vander Voort is not configured to retain the barrier element 80 in such a way that the barrier element 80 supports the grinding or polishing preparation element 70 of the apparatus of Vander Voort but is not secured relative to the grinding or polishing preparation element 70, it is respectfully submitted that Vander Voort does not expressly or inherently describe, or anticipate, each and every element of amended independent claim 49.

It is, therefore, respectfully submitted that, under 35 U.S.C. § 102(e), amended independent claim 49 is allowable over Vander Voort.

Claims 50 and 52 are both allowable, among other reasons, for depending from claim 49, which is allowable.

#### **Allowable Subject Matter**

The allowance of claims 40-48 is noted with appreciation. The indication that claims 4, 8, 10, 12, 14-16, 20, 23, 53, and 54 recite allowable subject matter is also gratefully acknowledged. None of these claims has, however, been amended to independent form, as the claims from which they depend are believed to be separately allowable.

**CONCLUSION**

The allowance of claims 40-48 is again gratefully acknowledged. It is also respectfully submitted that each of claims 1-23 and 49-54 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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